CCA GCA ACC AAT GAT GCC CGT T-TAMRA-3' CA GCA ACC AAT GAT GCC CGT T-TAMRA-3'

CCA GCA AGC ACT GAT GCC TGT T-TAMRA-3' CA GCA AGC ACT GAT GCC TGT T-TAMRA-3'

Fig. 1A

Fluorescent Dyes

	Absorbance Maxima	Emission Maxima
Fluorescein	494nm	525nm
Tetrachloro fluorescein	521nm	536nm
TAMRA	565nm	580nm

Fig. 1B

Cleaved Fragments:

Fig. 1C

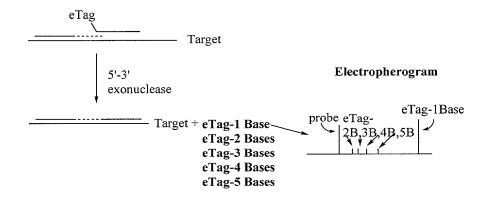


Fig. 3A

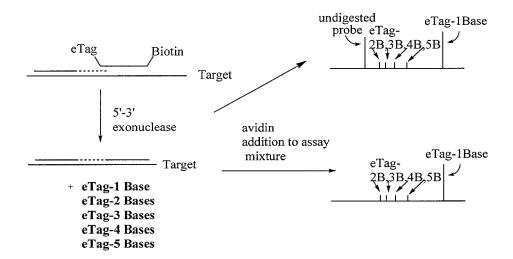


Fig. 3B

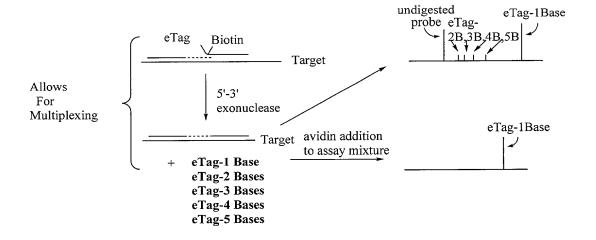


Fig. 3C

Fig. 3D

Fig. 4

e-tag Reporter	Elution Time Mass on CE, min
HO COOH OHO OHO OHO OHO OHO OHO OHO OHO OHO	NH 6.4 778 O
CI COOH O CI O P-O O	$ \begin{array}{ccc} & \text{NH}_2 \\ & \text{N} & 7.1 \\ & \text{N} & 7.1 \end{array} $
HO O O O O O O O O O O O O O O O O O O	IH ₂ N 7.3 901
CI CI COOH O CI CI O-P-O-OH HN O-OH OHOO OHO	NH ₂ N 7.7 994
CI CI COOH O CI HN OMe OMe O-	NH 8.0 985
HO O O O O O O O O O O O O O O O O O O	H ₂ N 9.25 961

Fig. 5

e-tag Reporter	Charge	Elution Time, min
O_Fluorescein		
HN () 0-P-C ₃ C ₃ C ₃ C ₃ C ₃ -	'dC -8	12.1*
O⊾Fluorescein		
$ \begin{array}{c} & O \\ $.C ₆ —	12.7
HN (-) O-P-O-C ₆ C ₆ C ₆ C ₆ C ₆ C	-8	12.8
Os > riuorescein		
HN \bigcirc 0 \bigcirc Fluorescein	-7	13.1
O Fluorescein HN () O P O C ₃ C ₃ C ₉	-6	13.0
OFluorescein		
O Fluorescein HN \bigcirc O \bigcirc O \bigcirc O \bigcirc Fluorescein	-6 C	13.4
OFFluorescein OFFluorescein OFFLUORESCEIN OFFLUORESCEIN	-5	12.8*
O Fluorescein		
O Fluorescein HN O P-O-C ₃ C ₉ dC	-5	13.2*
O Fluorescein	_	
HN () O-P-O-C ₉ C ₉ dC O-Fluorescein	-5	14.8
HN () 0-P-O-TTTdC	-6	17.3
OFluorescein		
$\begin{array}{c} \text{HN} \\ \text{O} \\ \text{O} \\ \text{Fluorescein} \\ \text{O} \\ \text{HN} \\ \text{O} \\ \text{O}$	-5	17.0
HN	,	
5 Ö-P-O- C ₉ dT O_Fluorescein	-4	15.2*
O Fluorescein O O O O O O O O O O O O O O O O O O O	-4	16.5
_		

Fig. 6

Fig. 7

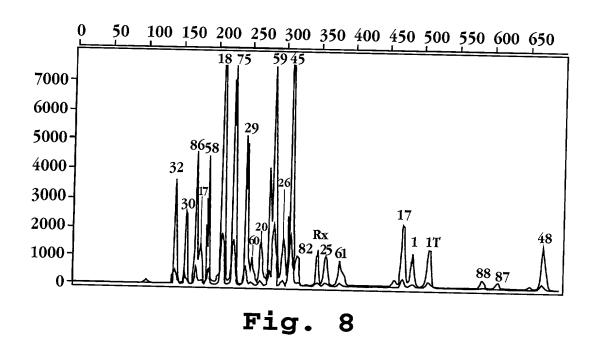


Fig. 9

(9 negative charges per coupling)

Fig. 10

HO CO HOOC HOOC HOOC NOH

HOOC HOOC HOOC NOH

HOOC HOOC NOH

DCC,
$$CH_2Cl_2$$

HOOC CEO

P-N

Grant P-N

Grant

Fig. 11

$$M = Mobility Modifier$$

$$M =$$

Fig. 12

$$\begin{array}{c} \text{HO} \\ \text{OO} \\ \text{H}_2\text{N} \end{array} \begin{array}{c} \text{OO} \\ \text{H}_2\text{O} \end{array} \begin{array}{c} \text{HO} \\ \text{OO} \\ \text{H}_2\text{O} \end{array} \begin{array}{c} \text{OO} \\ \text{Pyridine} \end{array} \\ \text{HN} \\ \text{OO} \\ \text{Pyridine} \end{array}$$

Fig. 13

H₂N H₂N H₂N H₂N H₂N H₂N CH₃ H₂N CH₃ CH₃ CONH₂ SBnOMe H₂N OH SBnOMe H₂N OH H₂N OH SBnOMe SBnOMe

lig. 14

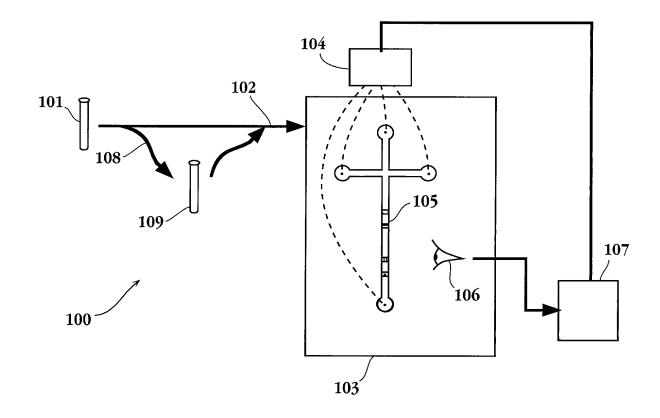


Fig. 16

ACLA001 ACLA007 Fluorescein Fluorescein ACLA008 ACLA002 **Fluorescein** HN ACLA003 ACLA009 Fluorescein dTdC^{Br} ACLA004 ACLA010 Fluorescein **Fluorescein** ACLA005 ACLA011 Fluorescein Fluorescein dT(dT)2dC ACLA006 ACLA012 Fluorescein

Fig. 17A

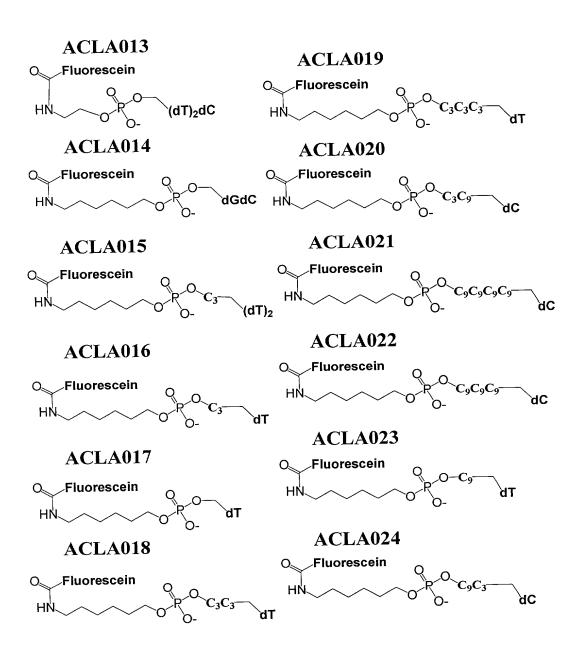


Fig. 17B

ACLA031 ACLA025 Fluorescein Fluorescein ACLA032 ACLA026 Fluorescein Fluorescein ΗŇ ACLA033 ACLA027 Fluorescein Fluorescein ACLA034 ACLA028 Fluorescein Fluorescein (dT)₄dC ACLA035 ACLA029 Fluorescein Fluorescein (dT)₃ ΗN ACLA036 ACLA030 Fluorescein Fluorescein **dTdG** ΗŇ

Fig. 17C

ACLA043 ACLA037 Fluorescein Fluorescein ACLA038 ACLA044 Fluorescein Fluorescein ΗŅ ďC ACLA039 ACLA045 Fluorescein Fluorescein ΗŃ ACLA040 HO-CH₁₈CH₁₈ Fluorescein ACLA046 Fluorescein ACLA041 Fluorescein ACLA047 Fluorescein ACLA042 Fluorescein

Fig. 17D

ACLA048 ACLA054 Fluorescein Fluorescein ACLA055 ACLA049 Fluorescein Fluorescein ACLA056 ACLA050 Fluorescein **Fluorescein** ACLA057 ACLA051 Fluorescein **Fluorescein** ΗŃ ACLA058 ACLA052 Fluorescein Fluorescein ACLA059 ACLA053 Fluorescein Fluorescein

Fig. 17E

ACLA060 ACLA065 Fluorescein Fluorescein ΗŃ дC `DDDD-ACLA061 ACLA066 Fluorescein Fluorescein ΗŃ ACLA062 ACLA067 Fluorescein Fluorescein ACLA068 ACLA063 Fluorescein Fluorescein ΗŃ ďC ACLA069 ACLA064 Fluorescein Fluorescein

Fig. 17F

Fig. 17G

Fig. 17H

ACLA089

$$C_3C_3TC_3$$
 d T C_9 C_9 C_9

ACLA090

Fluorescein

ACLA091

Fluorescein

$$C_{12}T$$
 d T C_9 C_9

ACLA092

Fluorescein

ACLA093

Fluorescein

ACLA094

Fluorescein

ACLA095

OFluorescein

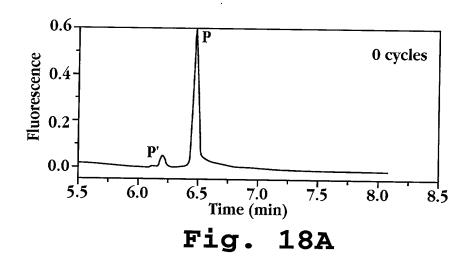
ACLA096

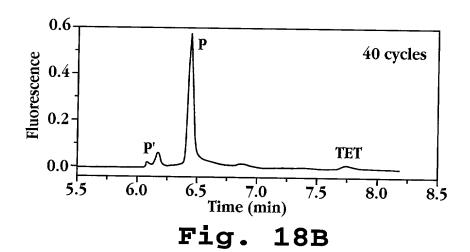
OFluorescein

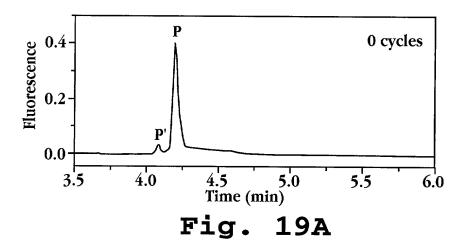
ACLA097

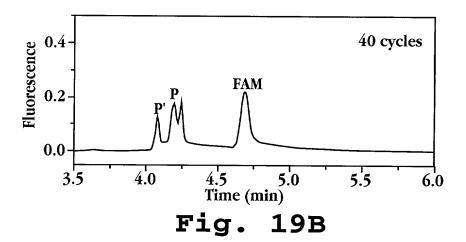
Fig. 17I

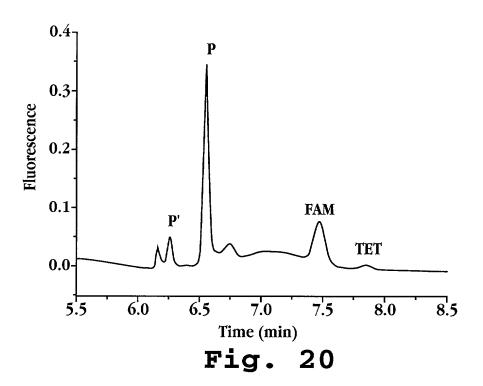
Fig. 17J











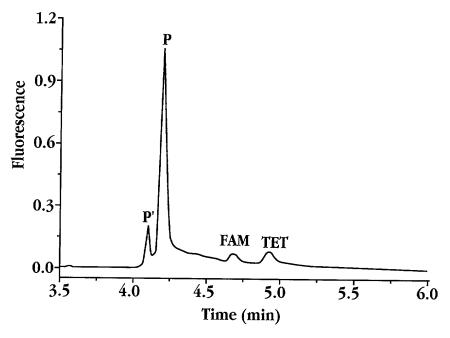


Fig. 21

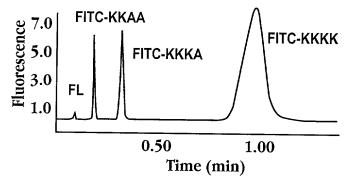


Fig. 22

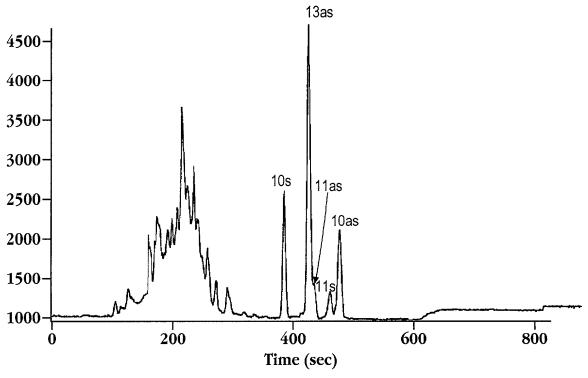
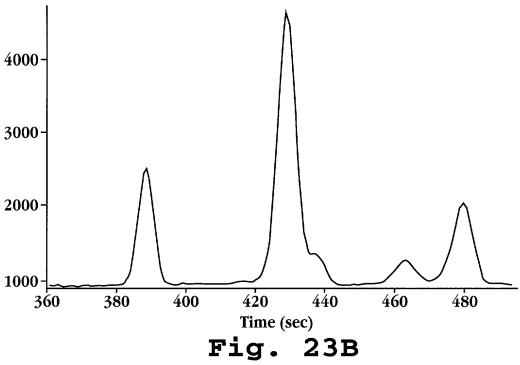


Fig. 23A



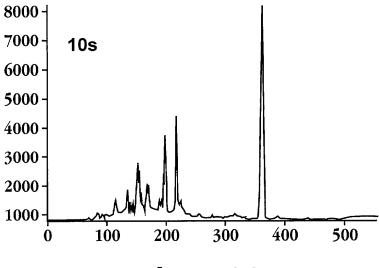
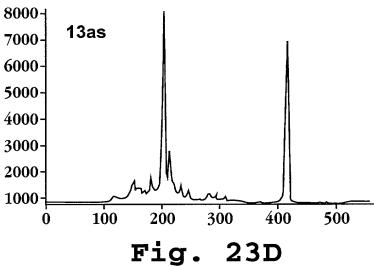


Fig. 23C



23D

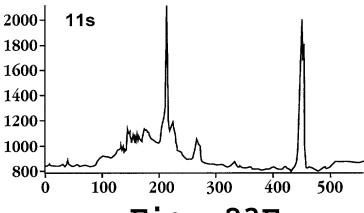


Fig. 23E

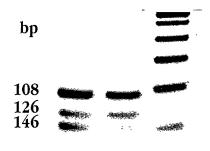
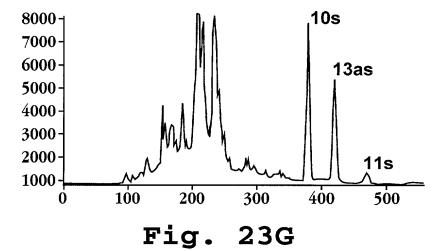


Fig. 23F



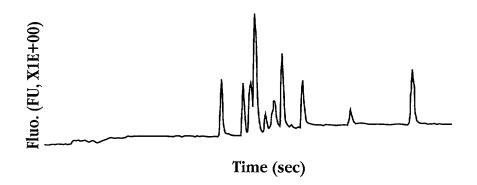


Fig. 24

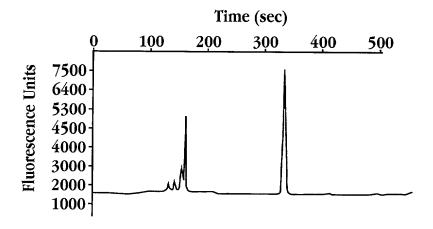


Fig. 25A

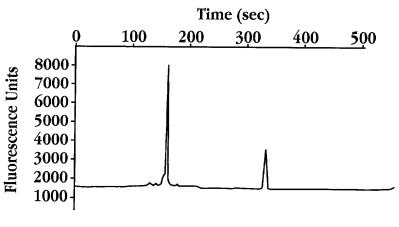
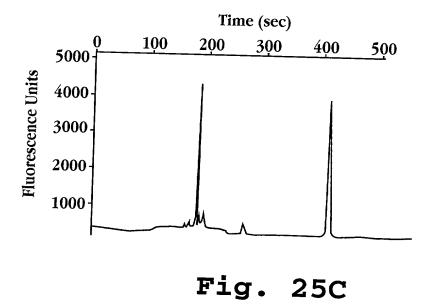


Fig. 25B



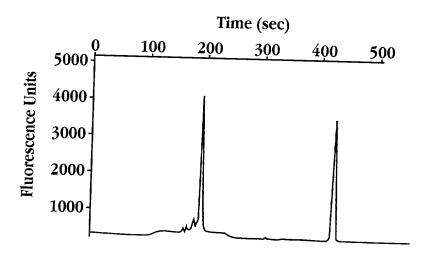


Fig. 25D

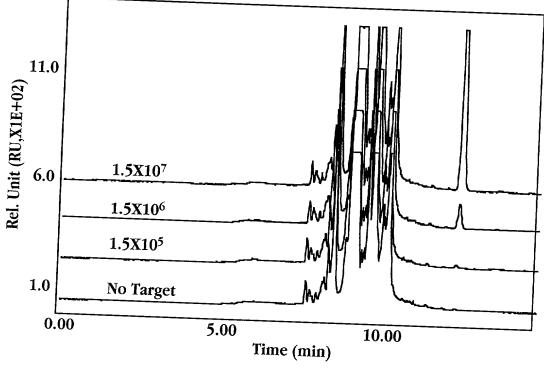
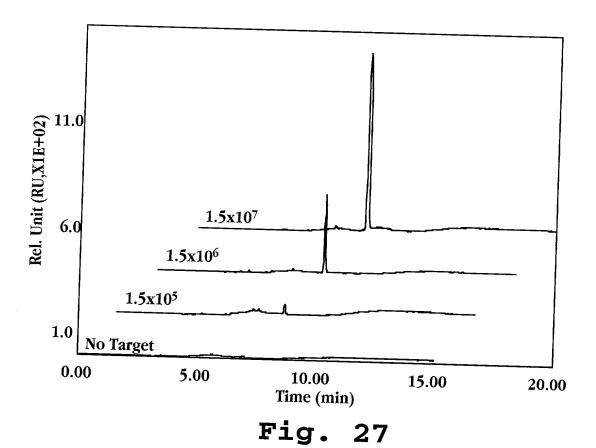


Fig. 26



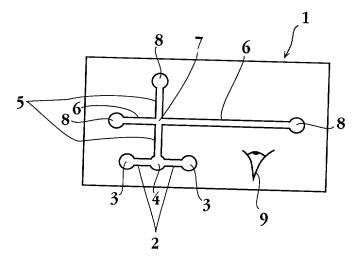


Fig. 28A

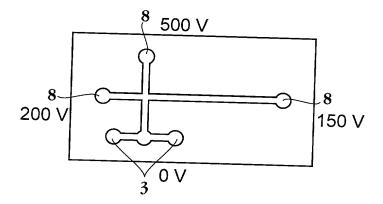


Fig. 28B

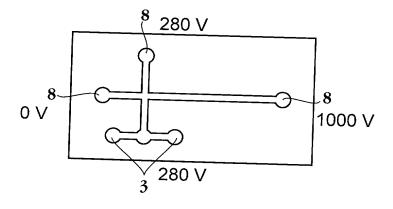


Fig. 28C

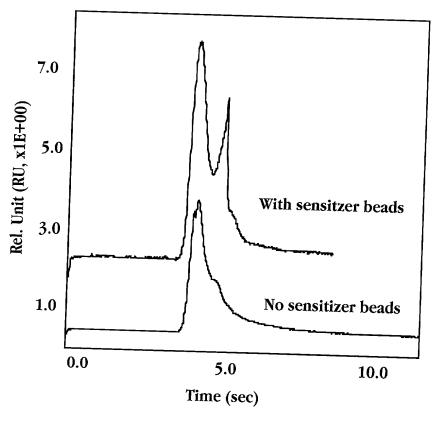


Fig. 29

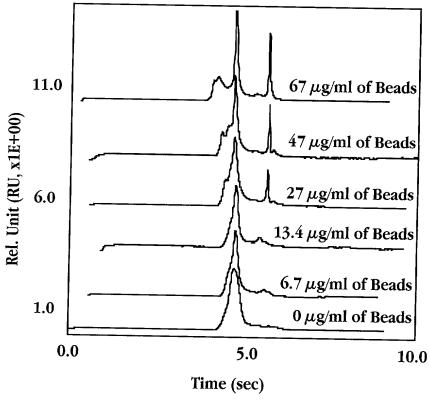


Fig. 30

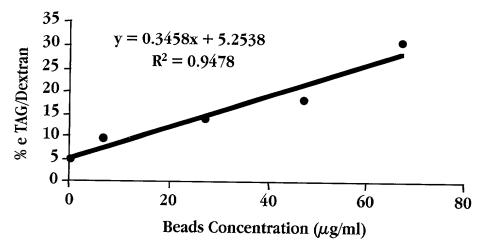


Fig. 31

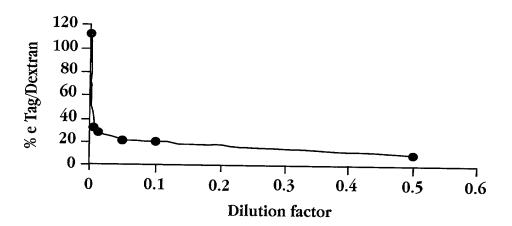
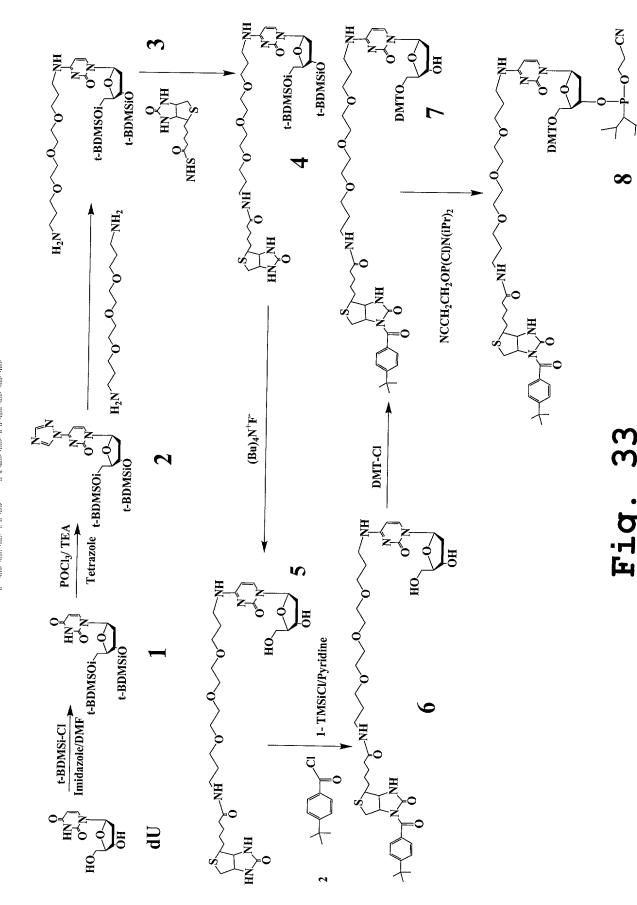


Fig. 32



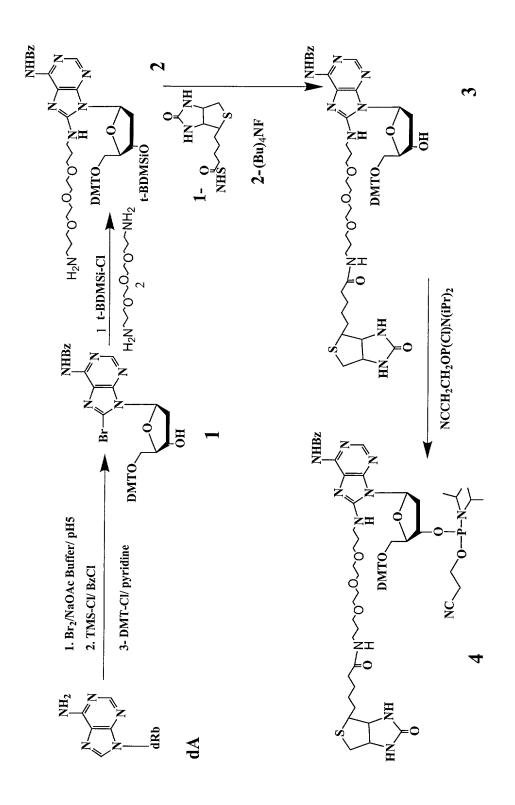


Fig. 34